

APPENDIX - PENDING CLAIMS

- 1 1. A method of distributing image prints printed on a plurality of printers to a
2 plurality of recipients, the method comprising:
3 receiving an order specifying a plurality of recipients and, for each specified recipient, a
4 set of one or more images associated with that recipient; and
5 for each recipient specified by the order, separating the images associated with the
6 recipient into at least one printable unit of images to generate a contiguous run of prints for the
7 recipient.
- 1 2. The method of claim 1 further comprising, for each printable unit, selecting a
2 printer on which to print the printable unit.
- 1 3. The method of claim 2 further comprising, for each printable unit, printing at least
2 one copy of each image in the printable unit on the selected printer.
- 1 4. The method of claim 1 wherein each image has associated print parameters.
- 1 5. The method of claim 4 wherein the images in a printable unit of images have print
2 parameters that allow the printable unit to be continuously printed.
- 1 6. The method of claim 1 wherein images in a first recipient's image set differ from
2 images in a second recipient's image set.
- 1 7. The method of claim 4 wherein print parameters of a first recipient's image set
2 differ from print parameters of a second recipient's image set.
- 1 8. The method of claim 7 wherein print parameters include one or more of print size,
2 number of copies, and/or print finish.

1 9. The method of claim 1 wherein print parameters differ among images within an
2 image set.

1 10. The method of claim 9 wherein print parameters include one or more of print size,
2 number of copies, and/or print finish.

1 11. The method of claim 1 wherein each image set comprises an arbitrary grouping of
2 images designated by a user.

1 12. The method of claim 1 further comprising, for each recipient, separating the
2 images associated with the recipient into one or more sub-orders.

1 13. The method of claim 12 wherein separating the images associated with the
2 recipient into at least one printable unit of images includes, for each sub-order, separating the
3 images associated with the sub-order into one or more sub-batches, each sub-batch representing a
4 printable unit.

1 14. The method of claim 13 wherein the images in a sub-batch have print parameters
2 that allow the sub-batch to be continuously printed.

1 15. The method of claim 13 wherein a plurality of orders is received, the images
2 associated with each recipient specified in each order are divided into at least one sub-order, and
3 each sub-order is divided into at least one sub-batch.

1 16. The method of claim 15 further comprising assembling at least one batch
2 including one or more sub-batches, wherein each sub-batch can be continuously printed on the
3 same type of printer.

1 17. The method of claim 16 wherein the images in a batch have print parameters that
2 allow the batch to be continuously printed.

1 18. The method of claim 16 wherein the at least one batch includes sub-batches from
2 two or more different sub-orders.

1 19. The method of claim 16 further comprising scheduling the batches to be printed in
2 a predetermined ordering.

1 20. The method of claim 19 wherein each order includes image data and control data.

1 21. The method of claim 20 wherein the control data includes at least one of print
2 parameters, user contact information, recipient information, payment information, and message
3 information.

1 22. The method of claim 21 wherein the image data includes pixel data for the images
2 in the order.

1 23. The method of claim 22 wherein the control data is used to control the printing of
2 the images.

1 24. The method of claim 20 further comprising, before printing each image:
2 correcting the image data for that image using information including the control data; and
3 calibrating the image data using information including the control data and at least one
4 characteristic of the printer on which the image is to be printed.

1 25. The method of claim 20 further comprising, for each batch, storing the image data
2 for the batch in a cache that is local to the selected printer for that batch.

1 26. The method of claim 25 further comprising, for each batch, placing the control
2 data for the batch in a queue associated with the selected printer for that batch.

1 27. The method of claim 26 further comprising, for each batch that is placed in a
2 queue, sending the image data associated with the images included in that batch to an image
3 processor associated with the selected printer for that batch.

1 28. The method of claim 27 wherein, for each batch that is placed in a queue, sending
2 the image data for that batch to the image processor associated with that queue before the batch
3 reaches the front of the queue.

1 29. The method of claim 1 further comprising verifying that an image print was
2 printed with the correct image.

1 30. The method of claim 1 further comprising checking the quality of the image print.

1 31. The method of claim 13 further comprising:
2 combining the image prints from at least two sub-batches from the same sub-order; and
3 distributing the combined image prints to the recipient associated with the at least two
4 sub-orders.

1 32. The method of claim 1 further comprising printing a destination identifier print
2 that identifies the specified recipient for a corresponding sub-batch of image prints.

1 33. The method of claim 32 wherein the destination identifier print delimits the
2 corresponding sub-batch.

1 34. The method of claim 32 wherein printing the destination identifier print comprises
2 printing one or more of the following items: a shipping address, a recipient's name, a print index,
3 a bar code, a textual message and/or print re-ordering information.

1 35. A method of generating physical manifestations of digital content on a plurality of
2 output devices, the method comprising:

3 receiving an order specifying a plurality of recipients and, for each specified recipient, a
4 set of digital content associated with that recipient;
5 for each recipient specified by the order, separating the digital content associated with the
6 recipient into at least one generatable unit of digital content having a contiguous run of prints for
7 the recipient; and
8 for each generatable unit of digital content, generating a physical manifestation of the
9 unit of digital content.

1 36.(Original) The method of claim 35 further comprising, for each generatable unit of
2 digital content, selecting an output device on which to generate a physical manifestation of the
3 unit of digital content.

1 37. The method of claim 36 wherein each generatable unit of digital content is
2 generated on the output device selected for that generatable unit.

1 38. The method of claim 35 further comprising distributing the physical
2 manifestations to their respective recipients.

1 39. The method of claim 35 wherein a set of digital content comprises one or more
2 digital images.

1 40. The method of claim 39 wherein the physical manifestation of the set of digital
2 content comprises photographic prints of the one or more digital images.

1 41. The method of claim 40 wherein the images in a generatable unit of images have
2 generation parameters that allow the generatable unit to be continuously generated.

1 42. The method of claim 41 wherein the print parameters include one or more of print
2 size, number of copies, and/or print finish.

1 43. A print distribution system comprising:
2 a plurality of printers;
3 a front-end computer sub-system for receiving an order specifying a plurality of
4 recipients and, for each specified recipient, a set of one or more images associated with that
5 recipient; and
6 a scheduler, connected to the front-end computer sub-system and the plurality of printers,
7 that for each recipient specified by the order (a) separates the images associated with the
8 recipient into at least one printable unit of images to generate a contiguous run of prints for the
9 recipient, and (b) designates a printer on which each printable unit is to be printed.

1 44. The system of claim 43 wherein each image has associated print parameters.

1 45. The system of claim 44 wherein the images in a printable unit of images have
2 print parameters that allow the printable unit to be continuously printed.

1 46. The system of claim 43 wherein images in a first recipient's image set differ from
2 images in a second recipient's image set.

1 47. The system of claim 43 wherein print parameters of a first recipient's image set
2 differ from print parameters of a second recipient's image set.

1 48. The system of claim 47 wherein print parameters include one or more of print
2 size, number of copies, and/or print finish.

1 49. The system of claim 47 wherein print parameters differ among images within an
2 image set.

1 50. The system of claim 49 wherein print parameters include one or more of print
2 size, number of copies, and/or print finish.

1 51. The system of claim 43 wherein each image set comprises an arbitrary grouping
2 of images designated by a user.

1 52. The system of claim 43 wherein the scheduler:
2 for each recipient, separates the images associated with the recipient into one or more
3 sub-orders; and
4 for each sub-order, separates the images associated with the sub-order into one or more
5 sub-batches, each sub-batch representing a printable unit.

1 53.(Original) The system of claim 52 wherein:
2 the front-end computer sub-system receives a plurality of orders; and
3 the scheduler, for each recipient, separates each order into one or more sub-orders and,
4 for each sub-order, separates each sub-order into one or more sub-batches.

1 54. The system of claim 53 wherein the scheduler assembles at least one batch
2 including one or more sub-batches, wherein each sub-batch can be continuously printed on the
3 same type of printer.

1 55. The system of claim 54 wherein the scheduler schedules the batches to be printed
2 in a predetermined ordering.

1 56. The system of claim 55 wherein the scheduler uses a global scheduling algorithm.

1 57. The system of claim 55 wherein the scheduler uses a just-in-time scheduling
2 algorithm.

1 58. The system of claim 55 further comprising a plurality of line controllers, each line
2 controller being associated with a printer and having a queue for storing the batches until they
3 are printed by the printer.

1 59. The system of claim 58 wherein each order includes image data and control data.

1 60. The system of claim 59 wherein the control data includes at least one of print
2 parameters, user contact information, recipient information, payment information, and message
3 information.

1 61. The system of claim 60 wherein the image data includes pixel data for the images
2 in the order.

1 62. The system of claim 61 further comprising an image cache local to the scheduler
2 for caching the image data.

1 63. The system of claim 58 further comprising an image processor associated with at
2 least one of the line controllers for processing the image data and at least a portion of the control
3 data prior to printing the image.

1 64. The system of claim 63 wherein the image processor further comprises image
2 processor software in a computer-readable medium comprising instructions for causing the
3 image processor to perform the following operations:
4 correct the image data using information including the control data; and
5 calibrate the image data using information including the control data and at least one
6 characteristic of the designated printer.

1 65. The system of claim 64 wherein the image processor software further comprises
2 instructions for causing the image processor to generate a destination identifier image, wherein
3 the destination identifier image can be used to print a destination identifier print that identifies
4 the specified recipient for a corresponding sub-batch of image prints and is generated from at
5 least the sub-batch's control data.

1 66. The system of claim 65 wherein the destination identifier image for each sub-
2 batch is generated from the sub-batch's control data and image data.

1 67. The system of claim 64 wherein the image cache includes software in a computer-
2 readable medium comprising instructions for causing the image cache to perform the following
3 operation:

4 in response to a message from the scheduler indicating that the scheduler has sent control
5 data for a batch to the line controller, send the image data for that batch to the image processor
6 associated with that queue.

1 68. The system of claim 43 further comprising a backprinter for backprinting at least
2 one image print.

1 69. The system of claim 68 wherein the backprinter backprints non-image
2 information on each image print.

1 70. The system of claim 69 wherein the non-image information includes at least one
2 of an image number associated with the image, a printable unit number associated with the
3 printable unit from which the image print was printed, reorder information, a bar code, and a
4 message.

1 71. The system of claim 70 wherein the message is an advertisement.

1 72. The system of claim 71 wherein the bar code encodes at least one of an audio
2 message, the image number associated with the image, and the printable unit number associated
3 with the printable unit from which the image print was printed.

1 73. The system of claim 59 further comprising a digital camera for capturing data
2 about at least one of the image prints.

1 74. The system of claim 73 wherein the camera is a low-resolution camera.

1 75. The system of claim 73 wherein the captured data is used to verify that the an
2 image print was printed with the correct image data.

1 76. The system of claim 73 wherein the captured data is used to check the quality of
2 the image print.

1 77. The system of claim 43 further comprising an inverter that inverts each image
2 print prior to backprinting.

1 78. The system of claim 77 further comprising a curl reduction equipment that
2 reduces curling of the image print prior to backprinting.

1 79. The system of claim 78 wherein the curl-reduction equipment uses suction to
2 reduce curling of the image print.

1 80. The system of claim 79 wherein the curling-reduction equipment device includes
2 a vacuum table.

1 81. The system of claim 77 further comprising an alignment device that aligns each
2 image print prior to backprinting.

1 82. The system of claim 81 wherein the alignment device includes:
2 an alignment wall against which each image print is to be aligned prior to backprinting;
3 and
4 a skew conveyor that receives each image print after the image print has been printed and
5 moves the image print towards the alignment wall as the skew conveyor conveys the image print
6 to the backprinter.

1 83. The system of claim 82 further comprising an alignment sensor positioned
2 laterally inward from the alignment wall that detects whether a portion of the image print is
3 positioned immediately beneath the alignment sensor.

1 84. The system of claim 83 wherein the alignment sensor is a photosensor that
2 optically senses the presence of the image print.

1 85. The system of claim 43 further comprising a conveyor on which image prints are
2 stacked after printing.

1 86. The system of claim 85 further comprising a controller, connected to the
2 conveyor, that advances the conveyor so that a new stack can be stacked after all the image prints
3 in a printable unit have been stacked on the conveyor.

1 87. The system of claim 86 further comprising a plurality of bins, positioned on the
2 conveyor, so that the image prints for a printable unit are stacked in a bin.

1 88. The system of claim 87 wherein the bin comprises:
2 a base for supporting the bin when the bin is placed on a surface of the conveyor;
3 a first bottom wall connected to the base so that the first wall has a pitch incline with
4 respect to the surface of the conveyor; and
5 a second bottom wall connected to a first end of the first wall at one end, the second wall
6 and first wall forming an angle so that image prints received in the bin tend to stack on the first
7 bottom wall with an edge of each image print registering with the second bottom wall.

89. The system of claim 52 further comprising a storage device in which one or more sub-batches can be stored for later combination with other sub-batches.

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conveyor so that a new stack can be stacked after all the image prints in a printable unit have been stacked on the conveyor; a plurality of bins, positioned on the conveyor, so that the image prints for a printable unit are stacked in a bin; or wherein the bin has a base for supporting the bin when the bin is placed on a surface of the conveyor; a first bottom wall connected to the base so that the first wall has a pitch incline with respect to the surface of the conveyor; and a second bottom wall connected to a first end of the first wall at one end, the second wall and first wall forming an angle so that image prints received in the bin tend to stack on the first bottom wall with an edge of each image print registering with the second bottom wall.

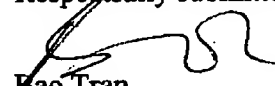
Hence, Fredlund, Cok, Shaked, Chan, Gringeri, Zorn, Juan, Church and Robertson, singly or in combination, cannot render the independent claims obvious. With respect to the dependent claims, they are allowable because they depend from allowable independent claims. As such, it is respectfully requested that the § 103(a) rejection of the claims be withdrawn and the claims be allowed.

CONCLUSION

Applicants believe that the above discussion is fully responsive to all grounds of rejection set for the in the Office Action.

If for any reasons the Examiner believes a telephone conference would in any way expedite resolution of the issues raised in this appeal, the Examiner is invited to telephone the undersigned at 408-528-7490.

Respectfully submitted,


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